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IS 10444 (1983): Specification for Hammer Mills [MED 17: Chemical Engineering Plants and Related Equipment]

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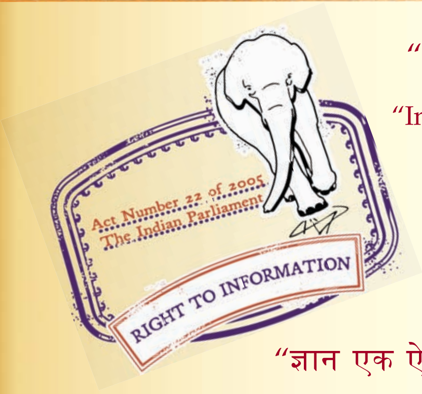

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IS : 10444 - 1983

( Reaffirmed 2006 )

*Indian Standard*

# SPECIFICATION FOR HAMMER MILLS

**1. Scope** — Covers hammer mills commonly used for crushing rocks, minerals, coke, coal and similar materials.

**2. Nomenclature** — For the purpose of this standard the various components of the hammer mill shall be designated as in Fig. 1.

**2.1** *Hammer Mill* — A machine essentially for crushing rocks, mineral, coal, coke and similar materials, mainly by impact imparted by hammers rotating at high speed making the material lumps to hit against grinding wall and resulting in the breaking or crushing of the material fed.

**3. Classification** — The hammer mills shall be classified as follows :

a) Depending on the direction of rotation:

   1) *Reversible hammer mill* — A mill where the hammer arm may be rotated in either direction that is, clockwise as well as anti-clockwise; and

   2) *Non-reversible hammer mill* — A mill where the direction of rotation is non-reversible.

b) Depending on the power consumption:

   1) *Light duty hammer mill* — A crusher which has a power consumption less than 200 kW,

   2) *Medium duty hammer mill* — A crusher which has a power consumption between 200 and 500 kW, and

   3) *Heavy duty hammer mill* — A crusher which has a power consumption above 500 kW.

**4. Marking** — Hammer mills shall have the following data affixed suitably:

a) Name and address of the manufacturer,
b) Rotor diameter at the hammer tip,
c) Hammer arm width at the tip,
d) Duty performance,
e) Reversibility,
f) No. of hammers,
g) No. of rows, and
h) Weight per piece.

**5. Balancing** — The degree of imbalance shall essentially depend on the speed of rotation of the crusher. A good statically balanced hammer mill with hammers symmetrically placed along the circumference shall be sufficient if the speed of the rotor is below 1 000 r/m.

**5.1** Allowable variation in the weight of a pair of hammers put diametrically opposite shall be in the range of ± 10g.

**6. Designation** — The designation of a hammer mill shall include:

a) Commonly used name,
b) Rotor diameter, and
c) Width of the hammer arm.

*Example* :

A hammer mill with 1 000 mm dia and width 1 200 mm shall be designated as:

Hammer Mill 1 000 × 1 200 mm, IS : 10444

Chemical Engineering Sectional Committee, EDC 57; Grinding Equipment Subcommittee, EDC 57 : 4 [ Ref : DOC : EDC 57(3570) ]

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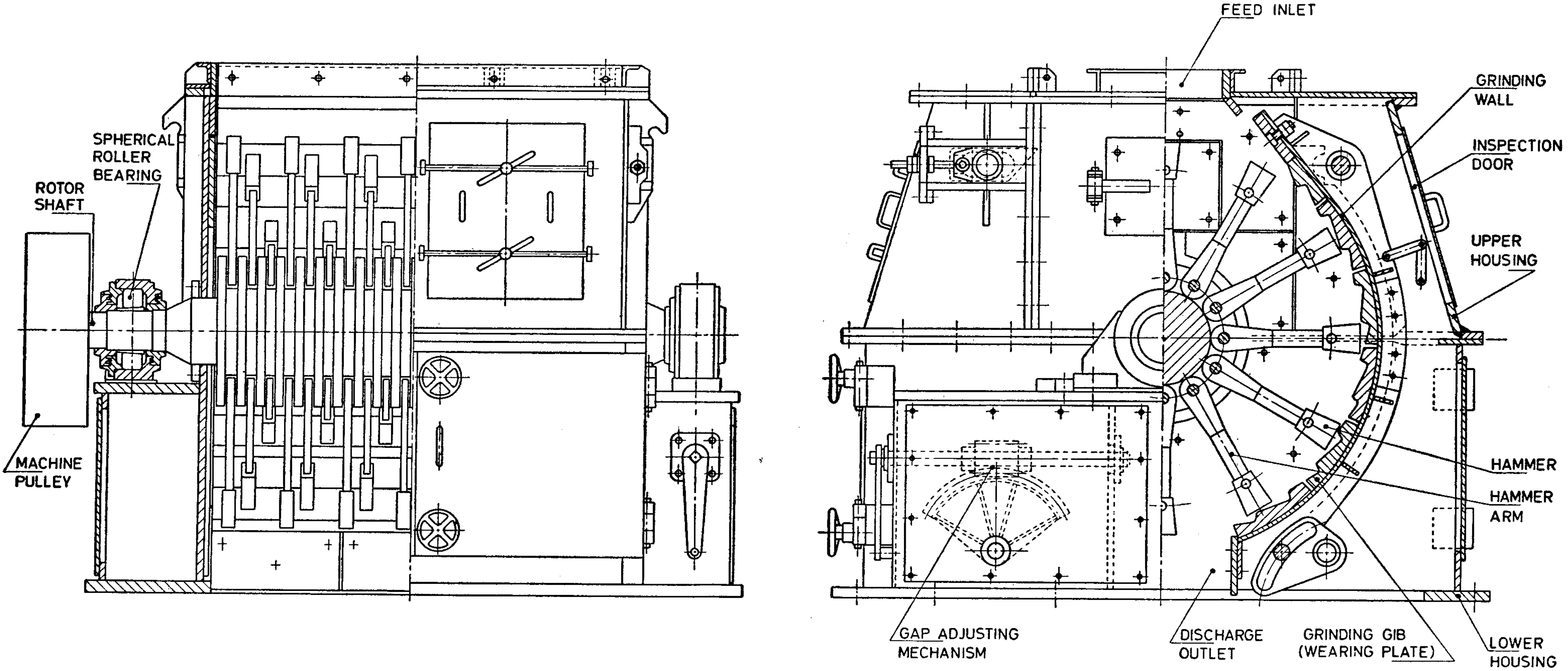

FIG. 1 GENERAL ARRANGEMENT OF HAMMER MILL ( REVERSIBLE )

**7. Supply** — The manufacturer shall supply a certificate to the purchaser along with each machine certifying that the hammer mill has been inspected for freedom from visible defects and the mill has satisfactorily withstood the trial run. Items to be covered under this certificate are given in Appendix A.

## APPENDIX A

( *Clause* 7 )

Information to be given in the certificate by the manufacturer to the purchaser at the time of supplying the machine:

a) *Inspection* — The inspection report shall state that each part of the machine has been inspected to ensure that it is free from any visible defects;

b) *Test run* — The test run report shall state:

   1) the number of hours the hammer mill has been run continuously at designated r/m under no load which shall be 8 hours after completion of assembly, and

   2) that after dismantling the crusher subsequent to the trial run, inspection has been carried out to ensure that

      —the construction of the crusher is satisfactory,
      —lubricating condition is satisfactory,
      —there is no slackness or unusual wear on any component, and
      —the bearings are evenly loaded;

c) For large size crushers load test shall be carried out at purchaser's end; and

d) Crusher shall generally meet the application data provided by the purchaser and agreed to by the supplier.

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